# Durability of phenolic-resin-treated oil palm wood against subterranean termites a white-rot fungus

## ABSTRACT

Oil palm wood (OPW) is seen as a strategic alternative wood material, especially in a country with huge oil-palm-planted areas such as Malaysia. The material is low in quality and various techniques have been used to improve its quality. This study was carried out to evaluate the resistance of low-molecular-weight phenol formaldehyde (Lmw-PF) resin treated OPW against subterranean termites and a white-rot fungus. Four sample groups including untreated OPW and treated OPW samples with three different compression levels (0%, 25%, and 50%) were prepared. Five specimens for each sample group were tested for resistance against subterranean termites (Coptotermes curvignathus) and the white-rot fungus Pycnoporous sanguineus, based on ASTM D 3345-74 and ASTM D 1413-99, respectively. Results showed that both treatment and compression level had significant effects on the percentage weight loss and mean decayed surface of the samples. Treated OPW with 50% compression yielded the best performance with the lowest weight loss on both termite and decay tests. Overall, Lmw-PF resin treated OPW with 25ï 50% compression can be used as an effective method to improve the durability of OPW.

**Keyword:** Oil palm wood; Resin impregnation; Durability; Coptotermes curvignathus; Pycnoporous sanguineus